

CLAIMS

What is claimed is:

1. A process of manufacturing an inductive component intended to be installed on a printed circuit and including at least one winding and a magnetic core, the process comprising:

- winding a wire having ends to form a winding in the form of a flat coil, the winding step being performed without using a former;
- connecting the ends of the winding to inner ends of connecting terminals;
- overmoulding a body from a block of an insulating material onto the coil and onto the inner ends of the connecting terminals so that a lower face of the body is at least generally orthogonal to an axis of the coil, the body including a central opening formed therethrough which passes along the axis of the coil; and
- placing a core made of ferrite on the body such that the core surrounds the body in a center plane containing the axis of the coil and has a center core element passing through the opening of the body.

2. A process in accordance with claim 1, wherein the wire includes a thermobonding outer layer, and further comprising passing an electrical current through the wire of an amperage sufficient to heat the wire to bond turns of the winding together.

3. A process according to claim 1, further comprising bonding the coil to a grid that has the connecting terminals formed thereon.

4. A process in accordance with claim 1, wherein the core comprises core elements bonded to each other with a non-magnetic adhesive.
5. A process in accordance with claim 1, wherein the step of placing the core comprises placing a core made of two elements on the body such that each of the elements extends along a respective face of the body, wherein one of the elements is E-shaped so as to have a center arm and two outer arms, and wherein, during the placing step, the center arm of the E-shaped element passes through the opening of the body and the outer arms pass along two opposite sides of the body.
6. A process in accordance with claim 1, wherein the step of overmoulding is performed via a transfer moulding encapsulation process using a thermosetting epoxy resin.
7. A process in accordance with claim 1, wherein the step of overmoulding is performed via an injection process using a thermoplastic polymer.
8. A process in accordance with claim 7, wherein, during the injection process, the thermoplastic polymer is injected at a temperature higher than 300° C.
9. A process in accordance with claim 7, wherein, during the injection process, the injection pressure ranges from to 40 to 60 bars.

10. A process in accordance with claim 7, wherein the injection cycle time of the injection process is less than 15 seconds.

11. An inductive component intended to be installed on a printed circuit, comprising:

first and second connecting terminals for connecting the inductive component to the printed circuit, the first and second connecting terminals having inner ends;

5 a conductive electric wire having a first end operatively connected to the inner end of the first terminal and a second end operatively connected to the inner end of the second terminal, the wire wound about an axis to form a coil;

a coating about the wire for retaining the shape of the coil;

10 a body formed from a block of insulating material having a lower face orthogonal to the axis, the body being overmolded onto the coil and onto the inner ends of the first and second terminals and defining a central opening therethrough which extends along the axis, wherein the body is made from a material comprising a thermoplastic polymer; and

15 a magnetic core positioned between the first and second connecting terminals, the magnetic core being formed of ferrite and having a central element passing through the central opening through the body.

12. An inductive component in accordance with claim 11, wherein the core comprises elements which are bonded to each other with a non-magnetic adhesive.

13. An inductive component in accordance with claim 11, wherein the coating is a thermobonding resin.

14. An inductive component in accordance with claim 11, wherein the first and second connecting terminals are generally coplanar with the lower face on two opposite sides of the body in relation to the center opening therethrough.

15. An inductive component in accordance with claim 11, wherein the core is formed of two elements, and wherein at least one of the elements is E-shaped.

16. An inductive component in accordance with claim 11, wherein the core comprises core elements having a magnetic air gap between the core elements.

17. An inductive component in accordance with claim 11, wherein the core comprises core elements which are adhesive bonded to each other.